

Appn. No.: 10/692,570
Amtd. Dated March 21, 2006
Reply to Office Action dated December 21, 2005

Remarks/Arguments

In response to a Restriction Requirement mailed September 13, 2005, Applicant elected Group 1 (claims 1-9) with transverse. The Office Action dated December 21, 2005 does not make the restriction final, however, PTO Form 326 shows claims 10-43 withdrawn from consideration. Applicant still maintains that Groups 1-8 are part of the same invention and that essentially the same art must be reviewed for all of the claims. If the restriction requirement is withdrawn for claims 10-25, which are directed to a method of printing indicium on an article in accordance with the instant invention, Applicant would be willing to cancel claims 26-43 which are directed to other than such method of printing. As set forth in the MPEP, in section 803.01:

...IT STILL REMAINS IMPORTANT FROM THE STANDPOINT OF THE PUBLIC INTEREST THAT NO REQUIREMENTS BE MADE WHICH MIGHT RESULT IN THE ISSUANCE OF TWO PATENTS FOR THE SAME INVENTION....

Claim 1 has been amended. Applicant reserves the right to pursue the original claims and other claims in this application and other applications. Claims 1-9 are pending in this application.

Claims 1-3, 5 & 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bauér et al. (US 6176908) in view of Kawamura (US 4553173). Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (US 6176908) in view of Kawamura (US 4553173) as applied to claims 1-3, 5 & 9 above, and further in view of Lent et al. (US 5837042). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (US 6176908) in view of Kawamura (US 4553173) as applied to claims 1-3, 5 & 9 above, and further in view of Connell et al. (US 5554842). Applicants respectfully traverse the rejections. However, solely in order to expedite prosecution, Applicants have amended claim 1 to more clearly describe the invention.

The Examiner has found that Bauer et al. discloses a method for producing indicum on article including the steps of providing a supply of multi-signal transmission ink which is adapted to provide a different signal which is adapted to machine readable; and printing

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at least portion of the indicium on the article by drop on demand or continuous printing the multi-signal transmission ink, wherein portion is adapted to be visually observable in normal day light, and the portion is adapted to be read as a non-halftone signal by a machine even though the portion is halftone printed.

The Examiner admits that Bauer et al. discloses all the limitation of the method for printing indicium except that the printing at least a portion of the indicium on the article by halftone printing. The Examiner relies on Kawamura to teach that to get the high resolution and high gradation printed image, print the portion of the image by halftone printing using laser beam printer or an inkjet printer. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method for printing indicium on article of Bauer et al. by the aforementioned teaching of Kawamura in order to have a high resolution and high gradation printed image. The Examiner is wrong.

Neither Bauer et al. nor Kawamura, alone or in combination, teach or suggest printing at least a portion of the indicium on the article by halftone printing multi-signal transmission ink, wherein the portion is visually observable as a halftoned signal in normal daylight, and wherein the portion is read as a non-halftoned signal by a machine even though the portion is halftone printed. Furthermore, although Kawamura discloses reproducing using halftone images, **Kawamura does not teach or suggest printing halftone images using multi-signal transmission ink.** Thus, Applicants submit that neither Bauer et al. nor Kawamura teach the very combination suggested by the Examiner.

The present invention is directed to a method for printing indicium on an article using a multi-signal transmission ink which is adapted to provide an optically visual signal when viewed in normal daylight and adapted to provide a different signal when read by a machine. The method includes printing at least a portion of the indicium on the article by halftone printing the multi-signal transmission ink. The portion is adapted to be visually observable as a halftoned signal in normal daylight, and to be read as a non-

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halftoned signal by a machine even though the portion is halftone printed. Referring to paragraphs [0045] and [0046] of the instant application (emphasis added):

... In a preferred embodiment, the controller 48 is adapted to control the print head system 46 to print the ink as a dithered or halftoned image. In printing, dithering, which is different from gray scaling, is usually called halftoning. Halftoning comprises reducing the number of dots which form a pattern or image. **Halftoning is usually used to create the illusion of new colors and shades by varying the pattern of dots. Newspaper photographs, for example, are often dithered.** If you look closely, you can see that different shades of gray are produced by varying the patterns of black and white dots. There are no gray dots at all, merely black dots and white areas.

Referring back to Fig. 2, the two-dimensional bar code section 20 was printed by the system 60 with the use of halftoning. More specifically, the bar code section 20 was produced with a 45 percent quantity of fill; i.e., 55 percent less dots or fill than a full 100 percent fill or use of all the dots to form the image shown in Fig. 1. The image shown in Fig. 3 is a negative image of the image shown in Fig. 2. It has been discovered that the fluorescent image produced under ultraviolet light by the bar code section 20 with a 45 percent fill is substantially the same as the fluorescent image produced under ultraviolet light by the bar code section 20 with a 100 percent fill.

Referring further to paragraph [0065]

Since fluorescence intensity is proportional with the concentration on the paper at low concentrations, and reaches a plateau at higher concentrations less than 100 percent of fill, it is possible to define various levels of fluorescence at increasing concentrations. **Various levels of fluorescence can be defined as "gray levels of fluorescence" similar to gray level of colored and especially of black inks.** The dependence of various concentrations of fluorescence on area coverage can be measured by measuring fluorescence intensity with a fluorometer. The fluorescence intensity measurements can be important to this concept and, an inexpensive and low-cost sensor can be developed for this purpose for adoption in printing devices or postage meters. **The present invention comprises use of high intensity fluorescent Images combined with visual images (to identify the presence of the print) in order to improve print quality characteristics, such as contrast, fill area and modulation due to the advantages obtained by measuring the fluorescence.** The print growth, which is higher in fluorescence, can compensate for the lower usage of ink that would otherwise be accompanied by regular black-and-white contrast.

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In view of the above, claim 1 is directed to printing indicium on an article using a multi-signal transmission ink that is adapted to provide an optically visual signal when viewed in normal daylight and to provide a different signal when being read by machine. At least a portion of the indicium is printed on the article by halftone printing the multi-signal transmission ink, wherein the portion is visually observable as a halftoned signal in normal daylight, and is read as a non-halftoned signal by a machine even though the portion is halftone printed.

For at least the above reasons, Applicant respectfully submits that claim 1 is allowable over the prior art of record. Each of the remaining claims are dependent on claim 1, and therefore include the limitations of claim 1. The references to Lent et al. and Connell et al. do not overcome the above deficiencies. Accordingly, Applicant respectfully submits that claims 2-9, dependent upon claim 1, are allowable along with claim 1 and on their own merits.

In view of the foregoing remarks, it is respectfully submitted that the claims of this application are now in a condition for allowance and favorable action thereon is requested.

Respectfully submitted,



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